

Sample Abstracts

These are abstracts that were submitted to one of the following conferences: Appalachian State University Annual Celebration of Student Research and Creative Endeavors, State of North Carolina Undergraduate Research and Creativity Symposium, National Conference on Undergraduate Research

College of Arts and Sciences

Humanities

The Politics of Good Taste: Art Criticism and Judgment in the Ancient Regime
Hannah Malcom and Michael Behrent (Faculty Mentor)

This paper will analyze pre-revolutionary French art criticism (1737-1789) to trace changing ways in which judgment was made and presented in France and to highlight the increasing democratization and politicization of public judgment formation. This analysis draws on the philosophical works of Immanuel Kant (1724-1804) and Hannah Arendt (1906-1975), who singled out art and art criticism as a privileged way to examine the formation of judgment. In Kant's philosophy, art criticism is the act of judging whether or not a particular work of art meets the universal standards of beauty. In pre-revolutionary France, free public access to the arts was deemed important because it was a way to showcase royal authority and because it helped create proper judgment in citizens. Therefore, in 1737, the French monarchy established biennial Salons, which were free exhibitions of royally commissioned artwork held in the Louvre. Most art criticism was published anonymously, which meant that the author had to rely solely on the strength of his argument, rather than on his reputation, to persuade people. Art criticism was also increasingly able to escape official censorship because authorities argued that it was important for the public to determine the difference between correct and incorrect interpretations. This contemporary discussion highlights the social and political aspects of art criticism and suggests that this analysis can also give insight into the development of political judgment.

Sciences

Comparison of Ground Level Ozone Trends in Great Smoky Mountain National Park with those in Shenandoah National Park
Mary Allen, Elizabeth Hammond, Howard Neufeld (Faculty Mentor), and Robert Swarthout

In 2003, the Environmental Protection Agency (EPA) implemented stricter emission standards for nitrogen oxides under the NO_x State Implementation Plans (SIP) Call. The impact of the NO_x SIP Call on ozone (O₃) mixing ratios was investigated in two National Parks: Great Smoky Mountains National Park (GSMNP) and Shenandoah National Park (SNP). The goal of this study is to continue the work of Neufeld et al. (unpublished), observing O₃ trends in Great Smoky Mountains National Park (GSMNP) and comparing those trends observed in SNP. To compare O₃ levels at both Parks, we used the N60, N80, and N100 indices, which are the number of hours at or above 60, 80 and 100 ppbv O₃, respectively, as well as the W126 exposure index, which preferentially weights the higher O₃ concentrations to estimate the impact of O₃ on plant life. For GSMNP, we found a slight increase in W126 values by 22% between 2013 and 2014. For SNP, the W126 index was highest in 1998 and steadily declined until the present. In GSMNP the N60 values increased by 65% from 2013 to 2014, a trend more apparent at higher elevation sites. For those same two years in SNP, the N60 index increased by 113% from 2013 to 2014. Despite the recent increase in N60 years the SIP call has reduced O₃ pollution in eastern National Parks like, GSMNP

and SNP. These results are not only beneficial to the health of visitors to the Parks, but to the natural ecosystems and plants as well.

Walker College of Business

The effects of tax payment amount and schedule on referendum votes for a public good: A comparison of SSI and MTURK samples

Matt Drake and John Whitehead (Faculty Mentor)

Willingness to pay can be elicited through hypothetical referendum votes with randomly assigned tax payment amounts. Tax payment schedules can be one-time, where respondents are asked to pay a lump sum amount, or annual, where respondents are asked to pay each year. In this study we consider a 2 x 5 experimental design where each respondent was randomly assigned one of two payment schedules and one of five payment amounts. Theory predicts that respondents will be less likely to vote for the proposed policy as the cost rises. This theory applies to both the payment amount and schedule with annual payments more costly, all else equal. The public good considered is an expansion of soccer player development for the U.S. Men's National Team. New data was collected in November 2015 from the Survey Sampling International (SSI) online panel and Amazon Mechanical Turk (MTurk) "workforce" (the SSI sample is approximately four times more costly than the MTurk sample). Analysis will begin with comparison of sample demographics and construction of weights to make the samples representative of the U.S. population. Tests for differences in proportions of "for" votes across payment amount, schedule and survey sample will be conducted. A linear probability regression model will be compared to the logistic regression model and willingness-to-pay estimates will be developed from each. Benefits of soccer player development will be compared to costs to inform public policy in the United States.

Reich College of Education

A mixed-methods approach to understanding the social and academic experiences of students of color at a selective PWI in the southeast

Sarah Aldridge, Brandy Bryson, Nickolas Jordan, Sarah Aldridge, Laura Pell and Brandy Bryson (Faculty Mentor)

The Southern Regional Education Board recently released a report which called on institutions to reverse the rapid decline in postsecondary education graduation rates among many groups of students of Color. Given that many predominantly white institutions (PWI) continue to struggle with recruiting, retaining, and graduating students of Color, the purpose of this study was to explore the experiences of students of Color and the factors promoting the academic and social success of these students at a selective PWI. Narratives of critical incidents in the lives of students of Color at Appalachian State University have been captured using a mixed-method design integrating both qualitative interviews and survey data on undergraduate and graduate students' racial identity, social experiences, and academic experiences as they pertain to race and racism. Data has also been analyzed and compared to extant literature on the experiences of students of Color at PWIs. The experiences of students of Color can offer PWIs with insight into the campus' racial climate, with the intention to improve recruitment, retention, and academic success among students of Color. For the purposes of this presentation, I will highlight the preliminary survey results and present the findings in conjunction with an extensive literature review on the experiences.

College of Fine and Applied Arts

On-site bioremediation: A solution to treatment of greywater
Benjamin Martin and Jim Houser (Faculty Mentor)

Further development of systems to treat and reuse greywater in residential and commercial settings must be pursued and their uses must be tested in order to develop a more sustainable pattern of water use. The policy environment regarding greywater reuse is not yet up to date with the technological developments. Because of this lack of policy implementation in the US, technological advances towards greywater systems are mostly found in laboratory settings. Treating wastewater on site via bioremediation and mechanical methods can save energy by reducing the stress on a large central water treatment facility to process greywater. This greywater can instead be used for various purposes on site, also reducing transportation of wastewater. The purpose of this research is to develop and test a greywater system to be used for cleaning greywater from a hair salon. The system will use bioremediation, the process of using organisms to consume and break down pollutants. Plants naturally clean water because it is a vital part of their metabolic pathway. Nutrients, including “waste,” are taken into the roots and the water remaining is then cleaner and less harmful to humans and the environment. By designing a system that can be installed in a business such as a hair salon, the greywater can be treated on site for toilet use and in turn reduce or eliminate the need to use drinking water for this purpose.

Beaver College of Health Sciences

The Role of Acceptance: What it Means for Adults who Stutter
Leah Connell and Joseph Klein (Faculty Mentor)

Stuttering is a speech disorder that impacts not only a person's physical ability to speak, but is also linked to negative thoughts and emotions related to communicating. The purpose of this study was to gather information on the role that acceptance plays in the way that people who stutter (PWS) view stuttering. This study is the first of its kind. It breaks ground for the qualitative investigation of the subjective relationship PWS have with acceptance and stuttering. Research has been done on acceptance, but no studies have ever addressed the way that actual PWS feel about acceptance. This study opens the way for further research on the role of acceptance for PWS. The method involved a survey distributed online to PWS. Questions addressed the level of acceptance that people had regarding their stutter and how that acceptance impacted their overall communication ability and ease. Questions also addressed the definition of acceptance related to stuttering. The results suggested that the more that a person accepted their stutter, the easier it was for them to communicate successfully. As for the definition of acceptance, results proved that it is difficult to define acceptance since many responses were circular definitions that used the word acceptance to define itself. Overall, participants defined acceptance as embracing the role of a PWS, being comfortable with stuttering, and disassociating negative feelings such as shame to themselves or their stutter.

Hayes School of Music

“Conceived in Defiance”: Francis Florentine Hagen’s Overture in F Major
Miranda Penley and Reeves Shulstad (Faculty Mentor)

The Moravian Church is one of the oldest divisions of Protestantism, but it has always been one of the smallest. Despite the size, Moravian communities have left behind a lasting legacy of sacred and secular

music, and the blur between these two styles of music is perhaps the most distinctive feature of this group. The compositional style of Francis Florentine Hagen (1815-1907), a pastor and composer born in the Salem settlement in North Carolina, provides an example of the seamlessness between sacred and secular music and the ways in which musical expression can reflect a philosophy of life. Examination of Hagen's diaries, scrapbooks and musical manuscripts at the Moravian Music Foundation in Winston-Salem, NC, led to a full analysis of his Overture in F Major, an orchestral work composed around 1836, and a comparison to his more familiar Morning Star hymn. Through this comparison, it becomes clear that Hagen's compositional style for hymnody influenced his secular writing. Unlike more traditional Moravian composers, Hagen was able to walk the fine line between traditional Moravian hymnody and Romantic orchestral music, inserting his individual experiences into his compositional practice. This Overture, which has never been recorded or fully analyzed, provides insight into the creative and distinctive style of this well-known Moravian composer.